WHAT IS CLAIMED IS

~~Patent Claims~~

1. Method for the compressed cordless communication between a base station and a plurality K of mobile parts via a plurality of K*<K physical radio channels, comprising the method steps:

-- acquisition of pause sections in the respective transmission data in the base station and the mobile parts;

-- storing the transmission data in a transmission data memory (3, 15) in the base station and in the mobile parts;

-- storing the appertaining transmission data and transmission pause time reference information in a transmission time reference memory (6, 17) in the base station and in the mobile parts;

-- communicating the time reference information from the mobile parts to the base station;

-- determining transmission time intervals of the base station and of the mobile parts with a control means (5) implemented in the base station;

-- transmitting the transmission time intervals from the base station to the respective mobile parts allocated to the individual base stations.

2. Method according to claim 1, characterized in that the time reference information is transmitted from the mobile parts to the base station in a control information field together with the transmission data.

3. Method according to claim 1 or claim 2, characterized in that the transmission time intervals are communicated from the base station to the respective mobile parts in a control information field together with the transmission data.

4. Method according to one of the claims 1 through 3, characterized in that a combined TDMA/CDMA method is applied as radio transmission method between base station and mobile parts.

5. Method according to one of the claims 1 through 4, characterized in that the ratio of the plurality of physical radio channels to the plurality of logical

transmission channels K*/K is selected dependent on an average data-to-pause ratio of the communication between base station and mobile parts.

6. Method according to claim 5, characterized in that the ratio of the plurality of physical radio channels to the plurality of logical data channels amounts to 1/2.

7. Method according to one of the claims 1 through 6, characterized in that, independently of the data transmission, the base station communicates a control signal to all mobile parts at regular intervals for updating the reception data memory (14) and the reception time information memory (16) of the respective mobile part.

8. Method according to one of the claims 1 through 7, characterized in that the transmission data are stored in blocks corresponding to a fixed transmission data length.

9. Method according to claim 8, characterized in that the block length corresponds to the frame length of a TDMA frame or a multiple thereof.

10. Method according to claim 8 or 9, characterized in that the size of the transmission data memories (3, 15) and reception data memories (4, 14) is a whole multiple of the block size and is selected according to a maximally allowed delay time.

11. Method according to one of the claims 1 through 10, characterized in that the data output from a mobile part or the base station to a user or, respectively, a connected communication network is controlled such that the signal running time influenced by the data storage at the transmission and reception side is always constant for all transmission channels.

12. Method according to one of the claims 1 through 11, characterized in that transmission pauses are stored in the time reference memories (6, 7, 16, 17) of the base station and of the mobile parts in the form of whole multiples of a transmission data block length; and in that, upon output of the data from a mobile part to a user or, respectively, the base station to a connected communication network, the pauses are reinserted into the data stream in proper time dependent on the time reference

information stored in the reception time reference memory (7, 16) in order to restore the original data/pause sequence.

13. Method according to one of the claims 1 through 12, characterized in that the control means (5) of the base station assures that each mobile telephone can transmit at least once in a time interval that corresponds to the size of its transmission data memory (15).

14. Method according to one of the claims 1 through 13, characterized in that, dependent on the data stored in the transmission data memories (3, 15) of the base station and of the mobile parts, the base station informs respective mobile parts whether the mobile part sends and/or receives data for a specific time duration.

15. base station for a compressed cordless communication with a plurality K of base stations via a plurality K*<K of physical radio channels, comprising:

-- a data input;
-- a data pause acquisition means (1) for acquiring data pauses in the transmission data;
-- a transmission data memory (3) for storing the transmission data;
-- a transmission time reference memory (6) for storing transmission data and transmission pause time reference information;
-- a modulator/concentrator (8) for compressing the transmission data onto K* physical radio channels;
-- a transmission means (10);
-- a reception means (11);
-- a demodulator/expander (9) for expanding the received data onto K logical communication channels;
-- a reception data memory (4) for storing the reception data;
-- a reception time reference memory (7) for storing the time reference information belonging to the received data;
-- a data output;

-- a control means (5) for controlling the transmission time intervals of the transmission means (10) and of the mobile parts and for compiling the reception data stored in the reception data memory (4)on the basis of the time reference information stored in the reception time reference memory (7) such that the original data/pause sequence of the data is restored for the output of the data at the data output.

16. Base station according to claim 15, characterized in that the data output is connected to another communication network.

17. Mobile part for a compressed cordless communication with a base station, comprising:

-- a data input;

-- a data pause acquisition means (20) for acquiring data pauses in transmission data;

-- a transmission data memory (15) for storing the transmission data;

-- a transmission time reference memory (17) for storing the appertaining transmission data and transmission pause time information;

-- a transmission means (13);

-- a reception means (12);

-- a reception data memory (14) for storing the reception data;

-- a reception time reference memory (16) for storing the time reference information belonging to the received data;

-- a data output;

-- a control means (18) for controlling the transmission time means (13) for the transmission of transmission data dependent on the transmission time intervals received from the base station and for compiling the reception data stored in the reception data memory (14)on the basis of the time reference information stored in the reception time reference memory (16) such that the original data/pause sequence of the data is restored, and for the output of the data at the data output.